City of Clayton
Landscape Plan Guide

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CITY OF CLAYTON
LANDSCAPE PLAN GUIDE

OVERVIEW

The main objectives of requiring a landscape plan are to fulfill the vision of greener neighborhoods and enhanced property values. Historically, properties were often clear cut removing large mature trees that could have been saved. In addition, the Board of Aldermen wanted to ensure as development continued that the larger structures on smaller lots did not reduce the amount of greenspace of the city. Caliper per caliper tree replacement has been a policy of city for several years. More recently, Clayton has had tree preservation provisions enacted within the Architectural Review Board Guidelines since July 1999. Since then, several projects have benefited from the planting of many new trees and more importantly the preservation of existing mature trees. The people of Clayton (residents, business owners, and visitors alike) benefit from a more beautiful city filled with trees, shrubs, and flowers.

This guide has been created to assist developers and design professionals in the preparation of the landscape component of their project and to facilitate a complete review of the plans.

When a Landscape Plan Is Required

Projects which require Site Plan Review must also contain a landscape plan prepared by a Missouri licensed landscape architect or certified arborist. Typically, these projects consist of:

- New residential buildings
- New commercial and mixed use buildings
- Large additions
- Large accessory structures
- Other projects at the discretion of the Department

Clayton's Tree Removal and Replacement Policy

In order to meet the goals stated above, the preservation of existing trees on the site is required. When preservation is not possible, the City of Clayton requires all trees that are at least one caliper inch to be replaced on-site with similar species. Minimum replacement size is 2-caliper inches. Evergreen trees are not counted toward caliper-inch replacement but are required to be replaced on a one-to-one basis from the Desired Species List located at the end of this guide. Minimum replacement size for evergreen trees is 6-feet in height. Trees which are determined to be in poor condition (50% or more dead and no longer viable) may not require replacement based on the recommendation of a certified arborist or licensed landscape architect and agreed to by the City. Any trees that have been removed prior to construction will be counted toward replacement.

In cases where the amount of caliper inches to be removed can not be replaced on site, the developer is required to pay an in-lieu fee of $120 per caliper inch. The fees are paid into the City's Reforestry Fund and are due upon application for a building permit.

City Approval Process

Because the landscape plan is a requirement of Site Plan Review, it must be submitted with the other necessary materials (site plan, building elevations, etc.). There is an application fee for Site Plan Review of $150.00 and a $250.00 landscape review deposit. These fees must be made when the project is submitted to the Planning and Development Department for Site Plan Review. The landscape review deposit is applied for the cost of the City's contracted Landscape Architect to review the project and provide recommendations to city staff. Site Plan Review is conducted by city staff on a weekly basis.

After staff determines that the plans are complete and satisfactory, the project is scheduled for final approval by the Plan Commission.

For further information on the city approval process, including number of plan sets and deadlines, please refer to the Site Plan Review application.

COMPONENTS OF A LANDSCAPE PLAN

A landscape plan is a component of every project that requires Site Plan Review. The landscape plan is an integral part of the review serving as the governing document for all landscape issues associated with a development and are to be drawn on a separate sheet from the site plan. The main components of a landscape plan are:

1. **Site information** based off the site plan (buildings, property lines, impervious areas, utilities, etc.)
2. **Tree inventory** showing existing trees to remain and those trees to be removed
3. **Tree schedule** including existing trees to be removed, trees to remain, and new plants to be installed--all listed by species and size (caliper inch)
4. **Tree protection** measures

Site Information

The landscape plan should be reflective of the site plan. Information contained in the site plan and transferred to the landscape plan includes:

- Lot lines
- Building lines
- Utilities (sewers, electric, water, gas)
- Impervious areas (retaining walls, driveways, sidewalks, trash, and HVAC enclosures)
- Contour/grading lines

Tree Inventory

All existing trees 1-caliper inch and greater should be identified on the landscape plan. Proper labeling should be used to differentiate between different species and types of trees (evergreen, deciduous, etc.). The caliper inch size of each tree needs to be provided; for needled evergreen trees, the height of the tree is to be used. Existing trees are measured at a Diameter Base Height (DBH) of 4.5 feet above grade.

Tree Schedule

A tree schedule must be included on the landscape plan. The tree schedule is typically in the form of a table showing the following information:

- Existing trees to remain by caliper and species and existing trees to be protected
- Existing trees to be removed by caliper and species
- New trees to be planted by caliper and species

All trees that are to be removed must be sized by caliper inch. The City of Clayton requires that all caliper inches of trees removed be replaced with similar species which total the amount removed. In addition, all evergreen trees are to be replaced on a one-to-one basis. All existing trees listed on the tree schedule should be reflective of the tree inventory. The tree schedule must list the species (common name and botanical name), size (caliper inch or height for needled evergreens). New trees are to be sized and measured 6-inches above grade. When selecting new trees for the site, considerations that will be reviewed by the City include adequate location for sun and moisture, growth habit, and appearance. A list of preferred trees can be found on the *Landscape Plan Resources* section of this guide.

Tree Protection

The City has adopted tree protection standards geared toward limiting the amount of disturbance to the tree. Depending on the potential impact to the tree, preservation measures typically required include fencing around the tree, root pruning measures, and aeration systems.

Developers are required to follow the City's tree protection standards (shown on the *Landscape Plan Resources* section of this guide) for those trees which are to remain on the property and which may be impacted by construction activity. The City of Clayton Tree Protection Notes and Tree Protection Details need to be shown on the landscape plan.

Landscape Plan Resources

LANDSCAPE PLAN/TREE PROTECTION CHECKLIST

The following is a checklist of items which typically need to be shown on the landscape plan:

1. Project title listing project name, owner name and name of firm or individual preparing the plan.
2. Scaled base plan using current information from the site development plan depicting existing and proposed grades.
3. North arrow.
4. Graphic and Written Scale.
5. Graphic legend depicting existing vegetation and proposed conditions.
6. Location of all improvements shown on the site development plan.
7. Location of all existing and proposed utilities and sewers.
8. Location of all proposed sediment control devices.
9. Graphic depiction of all existing trees including location, types and size.
10. Graphic depiction of the accurate drip line canopy of all existing trees showing the extent of the critical root zone.
11. Clear designation and tabulation of all existing trees to be saved or preserved, removed or impacted.
12. Proposed tree protection and preservation measures for all saved and impacted trees depicting, if necessary, root-pruning lines, protective devices and procedures including but not limited to fencing, boring, aeration, temporary special paving areas, retaining walls, etc.
13. General tree protection notes as per City standards.
14. Typical tree protection details as per City standards.
15. Tree planting details
16. Certification (signed and sealed) by a licensed Landscape Architect or Arborist in the State of Missouri.

CITY OF CLAYTON TREE PROTECTION PLAN NOTES

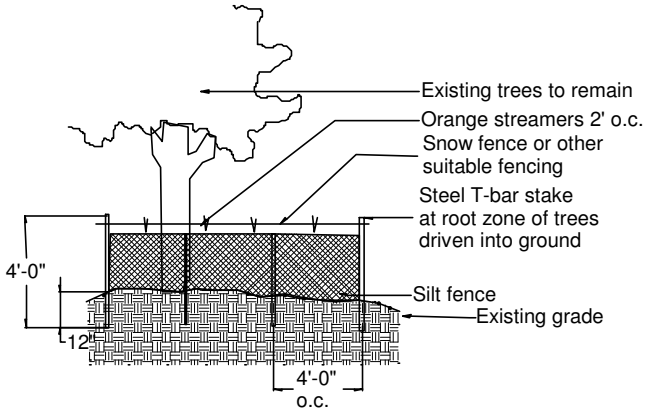
The following tree protection practices are to be followed. The information listed below is required on the landscape plan:

1. A pre-construction meeting shall be held on-site to explain protection measures to operators, construction supervisors, contractor's representatives, and the city representative (if necessary).
2. Contractor on the site shall stake clearing limits in order to facilitate location for trenching and fencing installation for tree protection.
3. No clearing or grading shall begin in areas where tree preservation measures have not been completed.
4. The sequence of tree preservation measures, if required, shall be as follows:
   a. Root pruning trenching;
   b. Tree protection fencing;
   c. Tree pruning and chemical treatment;
   d. Aeration systems installed;
5. The preceding measures shall be directed in the field by the construction supervisor.
6. Tree protection fencing shall be maintained and repaired by the contractor for the duration construction and approved by the city inspector. No alteration shall occur without prior approval by a city representative.

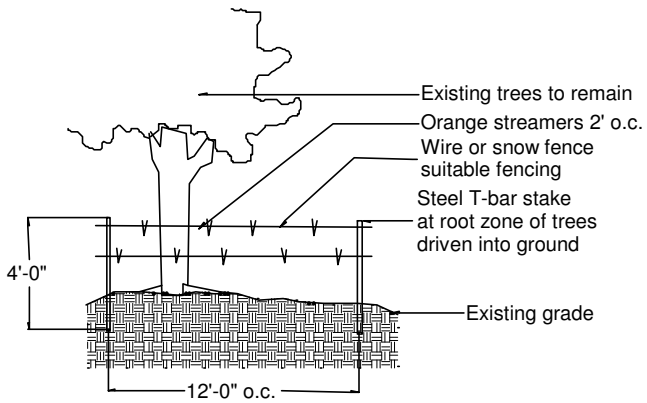
7. Access to fenced preservation areas by construction equipment, materials, or individuals that may cause harm to protected trees will not be allowed. Only limited access, if necessary, shall be permitted with the prior approval of the city inspector.
8. All designated aeration zones shall be protected with temporary fencing until final grading.
9. Removal of trees, shrubs, or undergrowth from protected areas shall be performed only when necessary and with hand tools only.
10. Attachment of any construction signs, fencing, etc. to any tree to be saved is strictly prohibited.
11. Upon construction completion, all temporary barriers, fencing, debris, etc. shall be removed from the site by the contractor.
12. All required protective fencing shall be installed along the clearing disturbance limits of the site.
13. Protective fencing shall be installed along the edge of all critical root zones of saved and impacted trees within the disturbed areas.

CITY OF CLAYTON TREE PROTECTION DETAILS

The following details shall be used for the purpose of including on the Tree Preservation Plan:



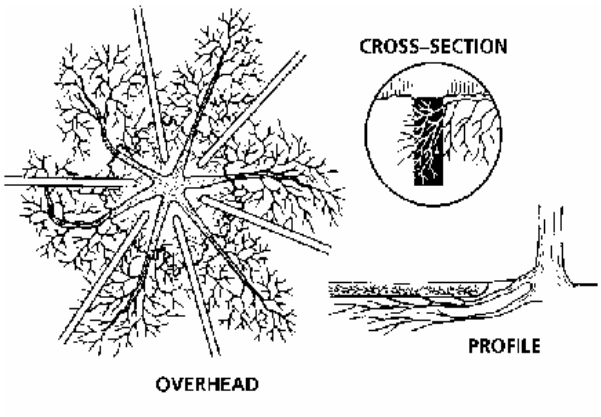
COMBINED SILT AND TREE PROTECTION FENCE



CONSTRUCTION FENCE FOR TREE PROTECTION

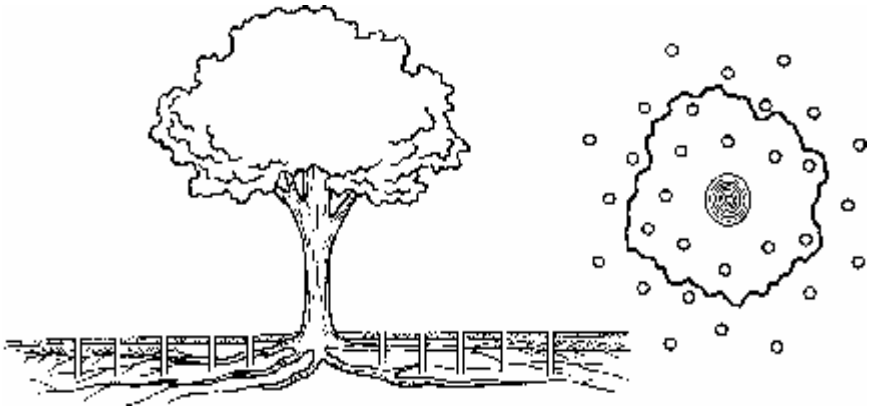
* Source: Steve Clark and Associates

*ROOT ZONE AERATION DETAIL - Radial Aeration *NOTE: Narrow trenches are to be dug in a radial pattern throughout the root zone. Begin the trenches 4-8 feet from the trunk of the tree to avoid cutting any major support roots. Trenches are to extend at least as far as the dripline of the tree. Trenches are to be a minimum of 1 foot in depth and may need to be deeper if the soil grade has been raised. Trenches are to be backfilled with topsoil or compost. Finish top layer of trench with a minimum 3 layer of wood chips. This technique is to be used for only isolated trees, where the roots of other trees would not be damaged.* Source: International Society of Arboriculture*



*ROOT ZONE AERATION DETAIL - Drilling Holes/Vertical Mulching **

NOTE: Holes are to be 2-4 inches in diameter and made about 3 feet on center, throughout the root zone of the tree. Depth shall be at least 12 inches and may be deeper if the soil grade has been raised. Holes are to be filled with peat moss, wood chips, pea gravel or other materials that maintain aeration and support root growth. * Source: International Society of Arboriculture



TREE LIST OF DESIRABLE SPECIES

When developing a landscape plan, careful consideration should be taken to assure that the plant species will thrive at a particular location. Factors to consider include the amount of sunlight, soil type and drainage, space restrictions, and climate. While not inclusive, the following list contains trees (categorized by species and growth habit) that are desirable for preservation and/or replacement in the City of Clayton.

Large Deciduous Trees (Count toward caliper replacement)

- Ash (Seedless)
  - Green varieties
  - White varieties
- Bald cypress
- Honey locust (thornless varieties)
- Maple
  - Norway
  - Red
  - Sugar
- Oak
  - Bur
  - English
  - Pin
  - Red, Scarlet
  - Swamp White
  - White

Medium Deciduous Trees (Count toward caliper replacement)

- Gingko
- Japanese pagoda tree
- Linden
  - Littleleaf
  - American
- River Birch
- Yellowwood

Small Deciduous Trees (Count toward caliper replacement)

- Amur maple
- Golden – rain tree
- Trident maple

Flowering Ornamental Trees (Count toward caliper replacement)

- Callery pear (improved varieties such as Aristocrat, Respire and Chanticleer)
- Crab apple (disease-resistant varieties)
- Eastern redbud
- European mountain ash
- Flowering cherry (weeping and improved varieties such as Mazzard, Higan, Kwanzan, Sargent)
- Flowering dogwood
- Japanese dogwood
- Cornelian cherry dogwood
- Hawthorn species
- Saucer magnolia
- Star magnolia
- Serviceberry species

Needled Evergreens (<u>Do not</u> count toward caliper replacement)

- Pine
  - White pine
  - Austrian pine
  - Japanese black pine
- Spruce
  - Norway spruce
  - Black Hills spruce
  - Colorado blue spruce
  - Colorado spruce
- Fir
  - White fir
  - Douglas fir
- Hemlock
  - Canadian hemlock
- Cedrus species (true cedars)
- Arborvitae
  - American
- Arborvitae
  - Oriental
- Juniper (upright cultivars such as Blue Heaven, Burki, Cannaartii, Keteleeri, Wichita Blue, Skyrocket)

Broad-Leaf Evergreen Trees (Count toward caliper replacement)

- Foster's holly
- Southern magnolia